

PCT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2002B044A	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 03/ 09733	International filing date (day/month/year) 28/03/2003	(Earliest) Priority Date (day/month/year) 29/03/2002
Applicant EXXONMOBIL CHEMICAL PATENTS INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

☒ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PO 03/09733

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C2/12 C07C303/06 C07C309/31 C07C2/66 C07C15/107
C07C29/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 026 933 A (BLAIN DAVID A ET AL) 25 June 1991 (1991-06-25) cited in the application column 2, line 25 - line 38	1-19, 21, 22
Y	column 2, line 65 - column 3, line 10 column 4, line 1 - line 30 column 5, line 25 - column 6, line 13 column 7, line 8 - column 10, line 10; claims; examples II, III, VII-XVIII	20
X	US 4 855 527 A (YOUNG LEWIS B ET AL) 8 August 1989 (1989-08-08) cited in the application claims; examples II-III, VII-VIII --- -/--	1-19, 21, 22

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

16 July 2003

Date of mailing of the international search report

28/07/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Seelmann, M

INTERNATIONAL SEARCH REPORT

International Application No

PO 03/09733

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 284 989 A (APELIAN MINAS R ET AL) 8 February 1994 (1994-02-08) cited in the application column 10, line 3 - line 31 column 11, line 25 - column 13, line 30 claims; examples 1,4,5 ----	1-19,21, 22
Y	US 3 440 291 A (WINKLE JOHN L VAN ET AL) 22 April 1969 (1969-04-22) claims; examples ----	20
A	FR 2 527 201 A (SNAM PROGETTI) 25 November 1983 (1983-11-25) fraction related to line 9 table 2 ----	1-19
A	G. MARCEGLIA ET AL.: "Skeletal isomerization of linear olefins. Isobutene via MTBE cracking butene-1 production etherification or alternative raw materials" CHEMICAL ECONOMY AND ENGINEERING REVIEW, vol. 14, no. 6, 1982, pages 35-40, XP009013980 page 39; tables 3,4 -----	1-19

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/09733

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5026933	A	25-06-1991	AU 2215288 A	13-04-1989
			CA 1304420 C	30-06-1992
			DE 3871318 D1	25-06-1992
			EP 0311310 A1	12-04-1989
			JP 1132534 A	25-05-1989
			JP 2562187 B2	11-12-1996
			US 4870038 A	26-09-1989
			US 4855527 A	08-08-1989
US 4855527	A	08-08-1989	AU 2215288 A	13-04-1989
			CA 1304420 C	30-06-1992
			DE 3871318 D1	25-06-1992
			EP 0311310 A1	12-04-1989
			JP 1132534 A	25-05-1989
			JP 2562187 B2	11-12-1996
			US 4870038 A	26-09-1989
			US 5026933 A	25-06-1991
US 5284989	A	08-02-1994	AU 667609 B2	28-03-1996
			AU 5549994 A	24-05-1994
			CA 2141568 A1	11-05-1994
			DE 69322878 D1	11-02-1999
			DE 69322878 T2	27-05-1999
			EP 0667839 A1	23-08-1995
			ES 2127372 T3	16-04-1999
			JP 8502959 T	02-04-1996
			JP 3395137 B2	07-04-2003
			SG 66220 A1	20-07-1999
			WO 9410108 A1	11-05-1994
US 3440291	A	22-04-1969	US 3400163 A	03-09-1968
			BE 678614 A	29-09-1966
			DE 1543471 A1	21-08-1969
			DE 1667286 A1	19-05-1971
			FR 1472711 A	10-03-1967
			GB 1109787 A	18-04-1968
			NL 6604094 A ,B	30-09-1966
			NL 7312880 A ,B,	26-11-1973
			SE 356692 B	04-06-1973
			SE 345254 B	23-05-1972
			US 3420898 A	07-01-1969
			US 3496203 A	17-02-1970
			US 3496204 A	17-02-1970
			US 3501515 A	17-03-1970
			US 3502730 A	24-03-1970
FR 2527201	A	25-11-1983	IT 1151182 B	17-12-1986
			AU 552855 B2	26-06-1986
			AU 1426183 A	24-11-1983
			BE 896789 A1	21-11-1983
			BG 37677 A3	16-07-1985
			BR 8302432 A	17-01-1984
			CA 1218386 A1	24-02-1987
			CH 656119 A5	13-06-1986
			CS 236879 B2	15-05-1985
			DD 209804 A5	23-05-1984
			DE 3318300 A1	24-11-1983
			DK 221583 A	21-11-1983

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PC 03/09733

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2527201	A	EG 16041 A	30-04-1987
		ES 8500203 A1	01-01-1985
		FR 2527201 A1	25-11-1983
		GB 2121791 A , B	04-01-1984
		GR 77461 A1	24-09-1984
		IN 159787 A1	06-06-1987
		JP 58219127 A	20-12-1983
		KR 8601850 B1	24-10-1986
		LU 84806 A1	07-03-1984
		MW 1983 A1	13-02-1985
		NL 8301820 A	16-12-1983
		NO 831758 A	21-11-1983
		NZ 204126 A	30-04-1985
		PH 19313 A	14-03-1986
		PL 242092 A1	02-07-1984
		PT 76729 A , B	01-06-1983
		SE 8302771 A	21-11-1983
		TR 21660 A	17-01-1985
		US 4513153 A	23-04-1985
		YU 110183 A1	28-02-1986
		ZA 8303158 A	25-04-1984
		ZW 10383 A1	10-08-1983